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XV.—*Ornithological Notes made in the Straits Settlements and in the Western States of the Malay Peninsula.* By Lieut. H. R. KELHAM, 74th Highlanders.

[Continued from p. 18, and concluded.]

PARRA SINENSIS, Gm. The Pheasant-tailed Jacana.

Late one evening in the first week in May, while shooting near Saiyong Jheel, on the Perak river, I was stalking a flock of Teal which had gone down on some swampy ground bordering the water, when something white darted past, which, in the dark, I took to be a Goose Teal, so fired, but found that instead of a Teal I had killed a most beautiful specimen of this handsome bird, the only one I came across in the peninsula, though in India I believe it is far from rare.

It was a male in summer plumage; length $17\frac{1}{2}$ inches, of which the tail of four long tapering black feathers measures $5\frac{1}{2}$; irides brown; beak, legs, and toes plumbeous, the toes are very long and slender, and set like the spokes of a wheel, hind claw $1\frac{1}{8}$ inch; underparts white, barred irregularly with black; a peculiar golden mane passes along the back of the neck; the back and scapulars are brown with a bright purple gloss; wings pure white, excepting the first primary, outer

webs of second and third, and borders round the ends of the secondaries, which are black ; wing-feathers very lanceolate, the first primary has at its tip a peculiar filament, the fourth is very attenuated and pointed ; wing-coverts barred with grey.

PORPHYRIO CALVUS, Vieill. The Purple Coot.

One afternoon, while Teal-shooting in Perak, I was wading about a jheel overgrown with weeds and aquatic plants, among which I shot a specimen, my only one, of this Coot.

Its plumage reminded me much of *Porphyrio caeruleus* of Europe ; but it is smaller than that bird, also its beak and legs are not of such a bright red. It feeds principally on weeds and other green substances. The stomach of the one I shot was very muscular, and contained vegetable matter and a quantity of sand ; but possibly they occasionally prey on the young of other birds, as their relation, *P. caeruleus*, which I shot in Sicily, had there the reputation of killing young wildfowl ; also, when visiting Mr. Whampoa, a Chinese gentleman residing in Singapore, he showed me a very handsome pair of these Coots in his garden, but said he was obliged to confine them in a cage, as, when let loose, they killed his chickens.

My Perak specimen, a male, shot on 9th May 1877, was 17 inches in length ; neck, throat, and upper parts of the breast pale greenish blue ; back of neck and the abdomen deep purple ; vent freckled with grey ; under tail-coverts white ; wing-coverts light blue ; legs, beak, and frontal plate dull red ; back and scapulars dark brown tinged with green and blue. Soon after death the beautiful blue of its plumage faded.

There were two of these Purple Coots in the Botanical Gardens, Singapore, also specimens in Raffles's Museum.

GALLICREX CRISTATA (Lath.). The Crested Water-cock.

This Water-fowl is very plentiful, breeding among the jheels and reedy swamps of Western Malayana. Personally I never found a nest, but in Perak, during April, have shot males with the red frontal plate, assumed only during the breeding-

season, fully developed. The following is from my notebook :—

“Kuala Kangsar, Perak, 31st March, 1877. This evening, in a very wet paddy-swamp, I shot a bird uncommonly like a Coot (*Fulica atra*), except that its toes were very long, and without lobe, web, or any other aid to swimming; it flew with a heavy flapping flight close over the tops of the reeds. It was of black plumage, but a good deal marked with rusty brown; also it had a little white on its shoulders; irides dark brown; length 15 inches; claws long, very curved and sharp; legs yellowish green, as was the beak, which extended up the forehead in the form of a reddish frontal plate; so I take the bird to be a young male in breeding-plumage; in the adult the iris is crimson.”

Again, in my notes I find :—

“Singapore, 22nd December, 1877. Today I got four couple of Snipe in the valley near Cluny, also shot a female specimen of the Water-cock (*G. cristata*), which Drake flushed out of a thick patch of reeds standing in water nearly two feet deep. Though at different times I have shot dozens of these birds, I never remember finding them anywhere but in very wet places; in Perak they were exceedingly plentiful on all the jheels, but kept to the thick reed-beds. During last spring I shot a great many on the jheels near Saiyong and Kota Lama, and found them very good eating, though in that respect not equal to the little Goose Teal.

“The great difference in size of the sexes of this bird is very noticeable: the female I shot today is 13 inches in length; irides dark brown; legs and beak dull green, the latter reddish at its base; head and the upper parts dark brown; the feathers of the back, also the tertiaries, broadly edged with pale brown; chin, throat, supercilia, outer web of first primary, and the shoulder white; underparts pale rufous brown, narrowly barred with dusky brown, particularly on the flanks.”

The male is a larger bird, about 16 inches in length, and, when mature, has red irides and its plumage very dark.

In Singapore I once put up a Water-cock which flew a

short distance, then settled on the top of some bushes eight or ten feet above the ground, a most unusual thing for one of these birds to do. It looked most strangely out of place; so I shot it in order to be sure of its identity.

ERYTHRA PHŒNICURA (Penn.).

The White-breasted Water-hen, though by no means rare, is not very often seen, owing to its extreme shyness; it frequents thick covert near water. At Singapore I occasionally saw it in the hedge-rows near the lake in the Botanical Gardens.

During November 1879 I shot several specimens on Pulo-Battam; also during 1877 I got many in Perak and Larut. One of the Pulo-Battam birds was 12 inches in length; beak yellowish green, reddish on the ridge; legs dull green; tarsus $2\frac{1}{4}$; upper plumage dull bluish black with a slight green tinge; face, throat, and breast pure white; vent and under tail-coverts chestnut. This specimen, being immature, had the irides brown; in the adult they are deep crimson. I once saw one of these birds settle on the upper branches of some trees; but they were of no height, about ten or twelve feet at the outside.

PORZANA CINEREA, Vieill. The Small Water-Rail.

I never came across this Rail on the mainland; but on Singapore, in certain localities, notably the Mount-Echo valley, they were very plentiful, particularly during September and October; but perhaps being out Snipe-shooting a great deal during those months I noticed them more than at other times, when I did not pass so much time in their resorts.

My notes are as follows:—

“Singapore, 7th October, 1879. Passed the afternoon Snipe-shooting in the Mount-Echo valley, wading through the swampy grass-fields knee-deep in most horrible filth—the sewage of Singapore, which is carried out from the town in large wooden tubs by the Chinese coolies and emptied over the fields as manure. The smell is most disgusting; but the valley being capital collecting-ground, in spite of the deep wading and unsavoury odours, I frequently pay it a visit.

"Today I got some Snipe (*Gallinago stenura*), Bitterns (*Ardetta cinnamomea*), Golden Plover (*Charadrius fulvus*), and several small Rails (*Porzana cinerea*); these last were very plentiful in the deepest parts of the swamp, and nearly every bush held one. When flushed they flew with a weak flight, with their long legs trailing behind them, for about fifty yards, then dropped and ran for the nearest covert, from which it was not easy to get them up a second time.

"A female I dissected had the ovaries much developed, stomach very muscular, full of grass-seeds, a fine thread-like weed, and a quantity of sand.

"Length $7\frac{1}{2}$ inches, tarsus $1\frac{1}{2}$; irides red, orbits scarlet; legs yellowish green, soles yellow; beak yellowish green, orange at its base; upper parts, the wings, and tail dull brown, with a plumbeous tinge on the head and neck; under-parts, also a streak under and over the eyes, white; sides of the neck and breast bluish grey. Another I shot had the irides a reddish brown colour."

At sunset on any fine evening during September dozens of them were to be seen feeding out in the open on the swamps below Mount Echo, scuttling off in all directions directly they were disturbed.

HYPOTÆNIDIA STRIATA (Linn.).

This common Water-Rail is apparently more abundant in the south than in the north of the peninsula, as I did not meet with it in Perak, while in Singapore I found it, at all seasons, the most common of all the Rails. I got specimens every day I went Snipe-shooting, their favourite resorts being very wet swamps covered with low bushes.

A female I shot on Pulo Battam, on 30th September 1879, was 10 inches in length, tarsus $1\frac{3}{4}$; irides dark brown; beak fleshy red, dusky on culmen and tip; legs dull green. Its stomach contained a quantity of dark-green substance, among which I detected the fragments of insects and the shelly covering of a chrysalis of some sort.

Another female, shot in Singapore 30th September 1877, was slightly smaller than the above, in other respects similar.

Top of head, the nape, and a streak down each side of the neck chestnut, marked with black on the crown; the wings and upper parts olive-brown, covered with narrow wavy bars of white, edged with black; the chin and throat dull white; a streak below the eye, the sides of the neck, and the breast lead-grey; abdomen dull brownish grey, barred, particularly on the flanks, with white.

RALLINA FASCIATA (Raffles).

This handsome Banded Rail is decidedly rare; I never shot one, and saw very few in the Malaccan collections. It can easily be identified by its richly banded plumage. It is smaller, also has the olive of the back more rufous than *Porzana ceylonica*.

LEPTOPTILUS ARGALA (Lath.).

The well-known Adjutant bird of Anglo-Indians is found along the Malayan coasts, but, I think, not so plentifully as the rather smaller and more darkly plumaged *L. javanicus*.

In August 1877 I saw several Adjutants on the mud at the mouth of the Moar river.

LEPTOPTILUS JAVANICUS (Horsf.). The Malay Adjutant.

Much more common in the Straits than the last-named species; both, however, there go by the name of "Adjutant bird." I found it plentiful on the mud-flats at the mouths of most of the rivers on the west coast, particularly about the bar at the entrance to the Larut river; but I never shot one, as on every occasion my baggage was much too limited to allow room for stowing away so bulky a bird.

It is easily tamed, and invaluable as a scavenger, particularly in a hot climate, where things do not improve by being kept. When quartered at Tanglin, every time I drove into Singapore I passed a pair of these Adjutants, which lived on the grass-plot at the roadside close to the town. They seemed very contented with their lot, never straying far away from one place, and were usually to be seen either perched on a railing, apparently buried in thought, or else gravely stalking along the edge of a tidal ditch bordering the road, on

the look-out for frogs, fish, or pieces of offal that might come drifting down the stream. My dog frequently used to rush and bark at them, when they put themselves into the most absurd attitudes, if very closely assailed bending forwards with their wings upraised, necks extended, and enormous bills wide open, presenting a most grotesque appearance.

The detachment of my regiment stationed at Penang bought a pair of these Adjutants from a Malay, and kept them on the race-course just outside the Mess. The following account of the birds, their manners and customs, is given me by an officer of the detachment, who watched them daily :—

“ In June 1877, when at Penang, S. S., B—— purchased, for the sum of three or four dollars, two Adjutant birds of a black and white colour ; head and bill of a yellowish colour, as was also the neck ; their bills were nearly a foot in length ; they possessed but very few feathers on the head and neck—in fact, only a few sprouting hairs ; their backs and wings were of a greenish black, and their breasts of a dirty white colour. The birds stood about three feet in height.

“ They were never kept in confinement, and from the very first were allowed to roam over a large open expanse of ground, but never seemed inclined to stray far, and very seldom even attempted to fly ; and when they did it was rather a failure, and consisted of a succession of bounds for about fifty yards, after which they appeared to be quite exhausted.

“ They were very curious birds to watch, and always gave one the idea that the surroundings had but little attraction for them, as they would spend more than half the day standing motionless opposite each other, bill to bill, and with both wings outspread, forming a most ludicrous picture ; sometimes they would stand like this for an hour or more ; but occasionally one of them raised and stretched out one of its legs as if it were stiff ; otherwise they would scarcely move a muscle. I do not remember ever hearing either of them utter a sound, though we often listened.

“ They were very coarse feeders, and did not consider much before they fed, either as regards quality or quantity. On

one occasion I threw to one of them, as fast as I could, one by one, several small fish about six inches in length; these he gulped down to the number of thirty-two, and even then did not appear satisfied.

"After they had been with us about a month, one morning one of them looked rather sorry for itself, and basked in the sun with outspread wings for several hours; but later in the day he lay down on the grass with his eyes closed, evidently very sick; by him stood his brother, quite unconcerned, and, as it seemed to us (for we watched him closely), unaware of any thing unusual being the matter. They remained like this till late in the afternoon, when we saw the healthy bird put his head on one side, and, looking inquisitively at his sick comrade, proceed to stir him up with his beak, but without making him move; and on going out we found him to be dead. To discover the cause of death a post-mortem was decided on; and B—— and myself set to work at once, and found in the bird's stomach, which was much inflamed, the legs and claws of a large Fowl, quite undigested, and probably the cause of its decease.

"The amusing part of the post-mortem was that the surviving bird stood close by to see us cut up his brother, and evidently with much pleasure; for he eagerly watched us slice off great lumps of meat, and was delighted when they were thrown to him, gobbling them up in no time; after a good meal he stalked away, very well satisfied with the afternoon's performance, apparently thinking what a pity it was he had not a brother dying every day."

ARDEA SUMATRANA. The Malay Purple Heron.

Plentiful in the jheels and paddy-swamps in Perak, particularly during April, when I found them in great numbers among the reeds of the large jheel near Saiyong; as I waded about I used to see them, with their long necks stretched out and heads raised above the reeds, most intently watching my movements.

They were rather wary, though when flushed they generally flew but a short distance, and settled on the upper branches

of some large trees bordering the jheel; then, under cover of the jungle, they were easily stalked. They reminded me much of *A. purpurea*, the European Purple Heron, except that they were not nearly so richly coloured as that bird. An immature female, which I shot at Kota Lama jheel, Perak, on 5th April 1877, measured about thirty-six inches in length, bill at front $4\frac{3}{4}$, tarsus 5; crown of head dull bluish grey; chin and throat white; face and neck rufous brown, the latter spotted longitudinally with dark brown; upper parts dull brown, the feathers edged with rufous brown and slightly glossed with purple and green; tail and wings slate-grey; wing-coverts ashy, with pale rufous edges to the feathers; abdomen yellowish white. It had been feeding on small fishes.

HERODIAS GARZETTA (Linn.).

I frequently met with this Egret among the swamps in Singapore, generally in flocks of from fifteen to thirty.

My notes record:—

“Singapore, 21st October, 1880. Today, while shooting Snipe in the swamp behind the barracks, I put up a party of twenty white Egrets, and, as they passed overhead, brought down one of them, a fine specimen of *H. garzetta*, in pure white plumage, but of course, at this time of the year, without the crest and the dorsal and pectoral plumes of the breeding-season.

“In length it is 24 inches, bill at front $3\frac{1}{6}$, tarsus 4; legs black, blotched with green; toes green; soles yellow.”

BUPHUS COROMANDUS (Bodd.).

The Cattle-Egret is very plentiful throughout the Malay peninsula; the following are some of the many references to it in my note-book:—

“Kwala Kangsar, Perak, 17th February, 1877. Buff-backed Herons are very common here; wherever there are many buffaloes large flocks of them are always to be seen, either walking about among the animals' legs, or else perched on their backs picking out ticks and other vermin. This afternoon, close to Kota Lama, I shot a female specimen:

length $19\frac{1}{2}$ inches, beak at front $2\frac{1}{4}$, tarsus $3\frac{1}{2}$; plumage white, with the exception of a faint buff tinge on the head and nape; irides yellow; legs black; beak reddish yellow; in short, the bird was in almost perfect non-breeding plumage, though another, which I shot out of the same flock, shows traces of the buff back. Every evening at dusk a large flock of these Egrets fly across the river and roost in a clump of trees exactly opposite our camp."

"Singapore, 4th November, 1880. Leaving Tanglin directly after tiffin, I followed a jungle-path for a mile or two till it brought me out on an open swamp, a branch of the Mount-Echo valley. Quietly parting the bushes, I looked out into the open, and found myself quite close to a large flock of Cattle-Egrets, which, unaware of my presence, were stalking about the swamp picking up larvæ and aquatic insects. After watching them for several minutes, I stepped out from my hiding-place and, as they rose, brought down a couple. The birds were so confused at my suddenly and so unexpectedly appearing almost in their midst, that they flapped about in all directions, not knowing which way to go, and gave me easy shots. One, struck by a single pellet, which grazed the top of its head, seemed to be completely dazed, and, though in other respects untouched, made no attempt to fly away, nor even to walk, but stood bolt upright, quite motionless, and stared vacantly at me in a most idiotic manner; I suppose it was suffering from concussion of the brain.

"Both of the birds I shot were in pure white plumage, except a slight tinge of buff on the head; the beak was orange, at front $2\frac{1}{4}$ inches; orbital skin greenish yellow; irides yellow; legs black tinged with green, soles green; tarsus $3\frac{5}{12}$ inches. Their stomachs contained large spiders, several grasshoppers, dragonflies, and small insects."

"Kuala Kangsar, Perak, 8th April, 1877. Today I shot in the country round Saiyong, and on the large jheel saw several Herons (*Ardea sumatrana*), a few Teal, and literally hundreds of Cattle-Egrets; the last are becoming of a ruddy brown colour on the head, neck, and breast, a sure sign of the approach of the breeding-season."

BUTORIDES JAVANICUS, Horsf.

Common, I got several in Perak. For many weeks one resorted daily to the river-bank just below our camp at Kwala Kangsar, and I often watched it fishing; at length, doubtless thinking itself in a dangerous neighbourhood, it took itself off to other grounds.

I also found this species plentiful among the islands of the Singapore archipelago; in my notes, in a description of a trip to Pulo Mongsa, is the following:—

“23rd September, 1880. . . . I found Pulo Mongsa to be about half a mile long by less than a hundred yards wide, thickly wooded, but fringed with a broad coral reef, at low tide of considerable width. Near its shores were long rows of fishing-stakes projecting some feet out of the water, on which sat hundreds of small green Herons (*Butorides javanicus*). On our approach they rose in regular flocks; and, so as to be certain what they were, I shot three or four. They flew very close to the surface of the water.”

ARDETTA FLAVICOLLIS (Lath.). The Black Bittern.

Personally I never shot this handsome Bittern in the Malay States; but I saw skins in Malaccan collections. I killed one or two in the neighbourhood of the Canton river, South China, where I found them in thick reeds and not easily flushed.

ARDETTA CINNAMOMEA (Gm.). The Chestnut Bittern.

I found this small Chestnut Bittern plentiful in Singapore, and also on the mainland, and shot many specimens in Perak, Larut, Province Wellesley, and Malacca, generally flushing them in paddy-fields.

A female, which I shot at Singapore on 30th September 1877, was about 14 inches in length, bill at front $1\frac{1}{2}$, tarsus $1\frac{3}{4}$; irides yellow; bill pale greenish yellow, dusky on the ridge; soles pale yellow; upper parts and the tail ruddy chestnut, but much variegated, many of the feathers of the wing-coverts and back being brown with pale yellowish margins; top of head dusky; chin whitish; pectoral gorget of ruddy yellowish-brown feathers with dark-

brown central streaks; under surface of the wings ash-grey with a delicate pink tinge.

Undoubtedly this was a young bird, being of such mottled plumage; moreover it was of much smaller dimensions than an adult, at least according to Jerdon's description.

Another specimen, which I shot during May in the neighbourhood of Kwala Kangsar, Perak, was of an almost uniform chestnut-colour as regards its upper parts, but brightest on the wings and tail, and becoming brown on the back; the top of the head had a dusky tinge; underparts yellowish white; pectoral gorget boldly marked with longitudinal reddish-brown streaks; under surface of the wings delicate pink-grey; bill at front 2 inches, in colour yellow, the ridge dusky; legs greenish yellow; irides bright yellow, orbital region green.

ARDETTA SINENSIS (Gm.).

Certainly not so common as *A. cinnamomea*, still by no means rare in reedy swamps and wet paddy-fields. It is easily distinguished from *A. cinnamomea* by its wing-quills and tail being deep blue-black instead of chestnut.

One which I shot at Singapore on 12th November, 1880, measured 15 inches in length, tarsus $1\frac{3}{4}$; irides yellow; legs and beak pale yellowish green, the latter dusky on its ridge; beak at front $2\frac{1}{4}$ inches.

Another, from Kota Lama, Perak, 22nd March, 1877, was of similar dimensions; top of head, the wing-quills, and tail black; face and the upper parts cinnamon-red, brightest on the back of the neck; wing-coverts pale yellowish brown; underparts pale yellowish white.

GOISAKIUS MELANOLOPHUS (Raffles). The Tiger Bittern.

I only once met with this magnificent Bittern, getting a single specimen, a female, near Changie, Singapore.

Length about 20 inches, beak at front 2, tarsus $2\frac{7}{12}$; top of head and pointed crest, passing over the nape, bluish black; tail brownish black; rest of the plumage chestnut, brightest on the face and sides of neck; the back and wing-coverts freckled with wavy black lines; pectoral plumes creamy

brown, dashed with black and chestnut streaks ; the abdomen and vent chestnut, richly marked with irregular black and white bars ; under tail-coverts white, irregularly marked with dark brown ; wing-quills bluish black, the terminal portions chestnut, and the extreme tips whitish.

DENDROCYGNA JAVANICA (Sykes). The Whistling Teal.

This bird may be called the Duck of the Malayan peninsula.

Though a migrant, it is found at certain seasons throughout all the Malay States ; and I do not believe its breeding-grounds can be far north of lat. 5° N., as the migration from the lower or southern half of the peninsula does not take place until late in June, and a few months later the birds are back again. During the winter months, or, to speak more correctly, during the north-east monsoon, these Ducks collect in large flocks on the wheels and flooded paddy-fields. In Perak I found them particularly partial to small weedy lakes surrounded by thick jungle ; and at one of these, near Saiyong, I used to see them literally in hundreds from February to April ; but towards the end of the following month they got very restless, and by the middle of June most of them had disappeared, probably having gone north to breed.

I think there is little doubt that some few remain to nest near the banks of the Perak river, in the vicinity of Kwala Kangsar, as at the end of June, after the main body had left, I occasionally came across stragglers in the ruddy breeding-plumage. Moreover Mr. Hugh Low, H.B.M.'s Resident at Perak, told me that the natives brought into Kwala Kangsar young birds but a few weeks old, assuring him that they had been caught in the neighbourhood. This happened in January or February ; so I suppose the birds breed from August or September till early in the year—that is, during the rainy season.

One cannot base conclusions on the habits of semidomesticated individuals ; but it is worthy of notice that several of these Whistling Teal which, a few years ago, were turned out with clipped wings on the artificial lake in the Botanical Gardens at Singapore, though, having perfectly recovered the

their wings, they daily fly about the island in search of food, still do not migrate, but remain and breed, and during September I saw several young ones swimming about with their parents. There is but little, if any, difference in the plumage of the sexes, and very slight seasonal change, though towards July specimens I shot were certainly more ruddy than earlier in the year.

During the heat of the day the Whistling Teal keep principally on the jheels, among thick reeds, and seem particularly fond of the small open pieces of water shut in by high rushes which are found in all large reed-beds. This makes them fairly easy to get at ; and on several occasions, by wading quietly through the water, waist deep, the reeds concealing my head and shoulders, I came on them unawares and killed several at a shot—a great addition to one's larder in a country where fresh meat was not to be got every day.

When on open water I found them by no means easy to stalk ; and even in places where I much doubt if a gun had ever been fired and they were but little disturbed, after one or two afternoons' shooting they became exceedingly wild and difficult to get near. The Malay bird can be easily distinguished from the other species of *Dendrocygna* by its small size ; out of the dozens which I shot at different times I do not think one ever exceeded 17 inches in length.

A male shot at Kota Lama, Perak, on 17th February 1877, was 16 inches in length ; irides dark brown, orbits bright yellow ; legs and beak bluish black ; head and neck dull brown, the former dark on the crown ; chin whitish ; underparts ruddy brown, except the vent and under tail-coverts, which were whitish ; wings black ; lesser coverts and the upper tail-coverts rich chestnut ; back dusky black, each feather terminating with a broad band of rusty brown.

NETTAPUS COROMANDELIANUS (Gm.). The White-bodied Goose Teal.

The beautiful, and most appropriately named, little Goose-Teal is exceedingly plentiful among the jheels and swamps of the mainland ; but I never met with it on Singapore or any of

the islands along the coast. In many respects it is very Anserine, whence its name, having the short high bill, pure white colouring, and hoarse cry of the Goose tribe.

The Goose Teal is generally found in small parties of from four to ten, often associating with the Whistling Teal; and I have on several occasions got specimens of both species at one shot.

They seem to prefer open sheets of shallow water to thick cover, but on being disturbed become very shy and retire to quiet creeks or back waters surrounded by jungle. Though I often found them on flooded meadows, I rarely (in fact do not think I ever) saw them actually on dry land. Their legs are so short and set so far back that probably they seldom attempt to walk, but on the water are quite at home, swimming and diving exceedingly well, and when slightly wounded are very hard to secure.

I remember once trying for nearly half an hour to catch a Goose Teal which fell winged into a shallow pool. It stayed under water a marvellous length of time at each dive, and when it did rise to the surface showed only its head, disappearing again the instant I moved; but at length I tired it out and consigned it to the bag. These birds also have the power of sinking their bodies below the water till nothing but their head is visible, hoping thus to escape notice.

One evening in Perak, while out bird-hunting, I came upon a small pool completely excluded from the outer world by the most luxuriantly growing jungle. From the overhanging trees long slender creepers hung down in tangled masses to the surface of the water, which was almost covered with aquatic plants. To complete this beautiful piece of jungle-scenery, in the centre of the pool was a Goose Teal, perfectly motionless; for, quietly as I had approached, it had heard me, and, thinking it was unobserved, did not rise, but, all the time intently watching my movements, slowly and noiselessly sank under the water till nothing but its head remained above the surface.

When on the wing, the flight of these birds is very rapid.

Skimming close over the reeds, they dodge along at use of a great pace, and are far from easy to shoot.

They breed in holes in trees, laying several white eggs. I was unable to find a nest, but think they breed in the north of the Malay peninsula, as near Kwala Kangsar I noticed that during June they paired and, leaving the open water, retired to out-of-the-way places in the jungle, often selecting the narrow creeks or inlets from a large jheel.

Concerning the mode in which these birds, Cotton-Teal as they are called in India, carry their young down from their nests to the water, I had the following related to me by an eye-witness, an officer in the Indian Civil Service. He was stationed on the Madras coast; but I forget the exact name of the place. Anyhow, one afternoon, late in June, while out riding he saw a Cotton-Teal leave a tree and fly down to a pool of water which was near; the bird's peculiar flight, slow and steady, so different from their usual rapid mode of progression, attracted his attention; and riding closer, he saw it had something resting on its back, which, on its reaching the water, proved to be three or four young Teal.

My informant then sent his native servant up the tree from which the bird flew; and at about twenty feet from the ground he found the nest, containing several more young birds, which he brought down; and my friend took them home, hoping to rear them in his poultry-yard; but in a short time they sickened and died.

Specimens shot in Perak during May had their legs black, but much tinged with yellowish green, which is the case, I believe, only during the breeding-season. The difference between the plumages of the sexes is very marked, the female being of much duller colours than the male.

The following specimens I shot in Perak during April 1877:—

Male. Length $12\frac{1}{2}$ to 13 inches; irides crimson; legs and feet greenish yellow tinged with black, webs black; face, neck, and whole of the underparts pure glossy white; a deep-black ring encircles the neck; top of head dark brown; back and wings beautiful metallic green with a rich purple tinge;

primaries barred, and the secondaries tipped with white, thus forming a band across the wing; flanks and tail-coverts vermiculated with grey lines, like a Wigeon's back; tail greenish brown; vent black.

The *female* is of the same size as the male, but not nearly so boldly marked; its irides are dark brown; bill yellowish black; the secondaries only are marked with white; face and neck grey; breast barred with narrow black lines; underparts dirty white; top of head dull brown, with a purple gloss.

I dissected both these birds: their stomachs were exceedingly muscular, contained weed and vegetable matter, also a quantity of sand and particles of quartz.

STERNA BERGII, Licht.

I shot several of these Terns in the Straits of Johore and off the south coast of Singapore. During September, while steaming to Pulo Mongsa, several flocks passed close to our launch. They flew close to the surface of the sea and in extended order, like a line of skirmishers; all the flocks were making in the same direction; and it was about three in the afternoon: so perhaps they were on their way to some place in which to pass the night.

One shot near Johore on 13th April was from 17 to 18 inches in length, bill at front $2\frac{1}{4}$, tarsus $1\frac{1}{2}$; irides dark brown; bill pale yellowish green; legs black; upper parts mottled all over with French grey and dusky brown; head and nape black, the feathers of the crown edged with white; forehead, underparts, inner portions of the inner webs of the primaries, and tail-feathers white.

I think this must have been an immature bird; others I shot had the legs green blotched with black.

STERNA SEENA, Sykes.

During May 1879 I got one of these Terns alive, it having been caught by a fisherman on the shore near Malacca. It was a female, length 16 to 17 inches, bill at front $2\frac{1}{2}$, tarsus 1, bill from gape 3, in colour bright yellow; irides dark brown; head and pointed crest over the nape deep blue-black; the

checks, a band across the upper part of the back, and all the underparts white, slightly dusky on the breast; upper parts delicate French grey, very silvery on the wings; inner portions of the inner webs of wing-quills white; tail very deeply forked.

I got other specimens near Singapore during September and October.

STERNA SUMATRANA, Raffl. The Black-naped Tern.

Common among the islands at the south of the peninsula. A specimen shot in the Johore Strait late in September was a male, length $13\frac{1}{2}$ inches, beak at front $1\frac{1}{2}$; irides dark brown; beak and legs black; tail very long and forked, the two outer feathers projecting $1\frac{1}{2}$ inch beyond the others; top of head, also the face, silvery white; a black streak passes from the beak through the eye, and enlarges into a broad patch on the nape; upper parts, tail, and wings pale French grey; outer web of first primary black; underparts glossy white delicately tinged with a most beautiful rosy hue. Its stomach contained small fishes.

SULA AUSTRALIS (?).

In June 1877 I saw several Gannets sitting on some drifting tree-trunks a few miles out to sea off the mouth of the Perak river.

ATTAGEN MINOR (Gm.). The Frigate-bird.

On 23rd September, 1880, I got an immature Frigate-bird on Pulo Nongso, about ten miles off the south coast of Singapore; I believe it to be the only specimen recorded as having been obtained in the Straits.

With some friends I was shooting green Pigeons as they came at dusk to roost on the island. Shortly after sunset, while waiting for the Pigeons, we saw a large bird flying towards the shore, and sailing along close over the surface of the sea. As it passed near one of our party, he brought it down. Length about 30 inches; beak and gullet pale bluish white; feet webbed and of a dull fleshy white; head, neck, and throat white, mottled with umber-brown, becoming dark brown on

the breast and back ; belly pure white ; wings and tail black tinged with green ; wing-coverts brown, the feathers having whitish margins ; middle claw pectinated. The bird had a very rank fishy smell.

GRACULUS CARBO, Linn. The Common Cormorant.

On 29th May, 1877, while returning down stream to Kwala Kangsar, after a few days' shooting on the upper reaches of the Perak river, I shot what I believe to be a specimen of the Common Cormorant.

In my notes I have written :—

“Soon after daylight, as we were drifting with the stream past the village of Enggar, loud exclamations from my Malay boatmen drew my attention to two large birds which were walking about side by side on a sandbank in the middle of the river. Steering within shot, I fired from beneath the attap roof covering the canoe and killed one of them, and, wading to the bank, found I had got a fine Cormorant, the first I have seen in this part of the country. It was not quite dead when I reached it, and whilst flapping about on the sand disgorged four or five small fishes. It was a female, length 34 inches, tarsus $2\frac{1}{4}$, middle toe with claw $3\frac{1}{2}$; irides pale green ; beak at front $2\frac{7}{12}$, in colour dirty white, black on the ridge ; gular pouch bright yellow ; head, back of neck, wings, back, and tail rich bronze slightly tinged with green, and having the feathers of the upper part of the back, also the scapulars and the wing-coverts, edged with black ; lower back and sides of abdomen uniform dark greenish-bronze colour ; face, front of neck, breast, and middle of the abdomen white, much mottled and streaked with brownish black.

PLOTUS MELANOGASTER (Gm.). The Indian Snake-bird.

I got one of these curious birds, looking like a cross between a Heron and a Cormorant, at Malacca ; it was shot in April, out of a party of ten or fifteen, on some pools at Kasang, a marshy district in the neighbourhood of the settlement. The local bird-collectors did not seem to be familiar with it ; so probably it is rare in that part of the country ; but further north, in Perak, I met with it on several occasions,

though I never saw more than two or three of them together. Its chief characteristics are the long snake-like neck and the beautifully marked black and silver scapulars.

XVI.—*Notes on the Birds of Astrakhan.*

By HENRY SEEBOHM.

WHEN I was in Dresden in the summer of 1881, with Dr. Sclater and Mr. Forbes, I made a great ornithological discovery. Herr Hofrath Dr. Meyer, with his accustomed felicity in pointing out to each visitor of the Museum whatever is of special individual interest, introduced me to Herr K. G. Henke, the ornithologist who accompanied Baron Hoffmannsegg to the valley of the Petchora about twenty to twenty-five years ago. When I told him what trouble Harvie-Brown and I took to find him out in 1875, he accounted for our failure by explaining that he was then living in Astrakhan, where he had resided for eight years. He devoted the whole of his time to collecting objects of natural history, principally ornithological, and disposed of many of his duplicates through the well-known dealer Herr Schlüter of Halle, from whom many very interesting skins and eggs of birds have been received by ornithologists in England and elsewhere, labelled "Untere Volga" and "Kirgische Steppen." Most, if not all, of these were collected by Henke, those from the former locality having been obtained in the delta of the Volga south of Astrakhan, and those from the latter locality on the great salt marshes lying between the Volga and the Ural rivers.

Henke's collection ought to be visited by every ornithologist interested in the birds of the Palæarctic Region. Two or three hours' railway journey from Dresden, through some of the finest scenery of "Saxon Switzerland," brings you to the little town of Sebnitz, whence you can walk (or, if you are lazy, drive in a cab) four miles to Saupsdorf, where Henke lives. Sixpence will admit you to a most charming little museum, full of birds and other objects of interest, principally from Astrakhan and Archangel.